

#2

OIPE

## RAW SEQUENCE LISTING

DATE: 09/18/2001

PATENT APPLICATION: US/09/942,024

TIME: 11:39:24

Input Set : A:\AR4803.txt

Output Set: N:\CRF3\09182001\I942024.raw

ENTERED

4 <110> APPLICANT: Steward, Lance E.  
 5 Fernandez-Salas, Ester  
 6 Aoki, Kei Roger  
 8 <120> TITLE OF INVENTION: Fret Protease Assays For Botulinum  
 9 Serotype A/E Toxins  
 11 <130> FILE REFERENCE: P-AR 4803  
 C--> 13 <140> CURRENT APPLICATION NUMBER: US/09/942,024  
 C--> 13 <141> CURRENT FILING DATE: 2001-08-28  
 13 <160> NUMBER OF SEQ ID NOS: 96  
 15 <170> SOFTWARE: FastSEQ for Windows Version 4.0  
 17 <210> SEQ ID NO: 1  
 18 <211> LENGTH: 8  
 19 <212> TYPE: PRT  
 20 <213> ORGANISM: Artificial Sequence  
 22 <220> FEATURE:  
 23 <223> OTHER INFORMATION: synthetic construct  
 27 <400> SEQUENCE: 1  
 28 Glu Ala Asn Gln Arg Ala Thr Lys  
 29 1 5  
 32 <210> SEQ ID NO: 2  
 33 <211> LENGTH: 206  
 34 <212> TYPE: PRT  
 35 <213> ORGANISM: Homo sapiens  
 37 <400> SEQUENCE: 2  
 38 Met Ala Glu Asp Ala Asp Met Arg Asn Glu Leu Glu Glu Met Gln Arg  
 39 1 5 10 15  
 40 Arg Ala Asp Gln Leu Ala Asp Glu Ser Leu Glu Ser Thr Arg Arg Met  
 41 20 25 30  
 42 Leu Gln Leu Val Glu Glu Ser Lys Asp Ala Gly Ile Arg Thr Leu Val  
 43 35 40 45  
 44 Met Leu Asp Glu Gln Gly Glu Gln Leu Glu Arg Ile Glu Glu Gly Met  
 45 50 55 60  
 46 Asp Gln Ile Asn Lys Asp Met Lys Glu Ala Glu Lys Asn Leu Thr Asp  
 47 65 70 75 80  
 48 Leu Gly Lys Phe Cys Gly Leu Cys Val Cys Pro Cys Asn Lys Leu Lys  
 49 85 90 95  
 50 Ser Ser Asp Ala Tyr Lys Lys Ala Trp Gly Asn Asn Gln Asp Gly Val  
 51 100 105 110  
 52 Val Ala Ser Gln Pro Ala Arg Val Val Asp Glu Arg Glu Gln Met Ala  
 53 115 120 125  
 54 Ile Ser Gly Gly Phe Ile Arg Arg Val Thr Asn Asp Ala Arg Glu Asn  
 55 130 135 140  
 56 Glu Met Asp Glu Asn Leu Glu Gln Val Ser Gly Ile Ile Gly Asn Leu  
 57 145 150 155 160  
 58 Arg His Met Ala Leu Asp Met Gly Asn Glu Ile Asp Thr Gln Asn Arg  
 59 165 170 175  
 60 Gln Ile Asp Arg Ile Met Glu Lys Ala Asp Ser Asn Lys Thr Arg Ile

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```

61          180          185          190
62 Asp Glu Ala Asn Gln Arg Ala Thr Lys Met Leu Gly Ser Gly
63          195          200          205
66 <210> SEQ ID NO: 3
67 <211> LENGTH: 8
68 <212> TYPE: PRT
69 <213> ORGANISM: Artificial Sequence
71 <220> FEATURE:
72 <223> OTHER INFORMATION: synthetic construct ✓
76 <400> SEQUENCE: 3
77 Gly Ala Ser Gln Phe Glu Thr Ser
78 1          5
81 <210> SEQ ID NO: 4
82 <211> LENGTH: 116
83 <212> TYPE: PRT
84 <213> ORGANISM: Homo sapiens
86 <400> SEQUENCE: 4
87 Met Ser Ala Thr Ala Ala Thr Ala Pro Pro Ala Ala Pro Ala Gly Glu
88 1          5          10          15
89 Gly Gly Pro Pro Ala Pro Pro Pro Asn Leu Thr Ser Asn Arg Arg Leu
90          20          25          30
91 Gln Gln Thr Gln Ala Gln Val Asp Glu Val Val Asp Ile Met Arg Val
92          35          40          45
93 Asn Val Asp Lys Val Leu Glu Arg Asp Gln Lys Leu Ser Glu Leu Asp
94          50          55          60
95 Asp Arg Ala Asp Ala Leu Gln Ala Gly Ala Ser Gln Phe Glu Thr Ser
96 65          70          75          80
97 Ala Ala Lys Leu Lys Arg Lys Tyr Trp Trp Lys Asn Leu Lys Met Met
98          85          90          95
99 Ile Ile Leu Gly Val Ile Cys Ala Ile Ile Leu Ile Ile Ile Val
100          100          105          110
101 Tyr Phe Ser Ser
102          115
105 <210> SEQ ID NO: 5
106 <211> LENGTH: 8
107 <212> TYPE: PRT
108 <213> ORGANISM: Artificial Sequence
110 <220> FEATURE:
111 <223> OTHER INFORMATION: synthetic construct ✓
115 <400> SEQUENCE: 5
116 Asp Thr Lys Lys Ala Val Lys Trp
117 1          5
120 <210> SEQ ID NO: 6
121 <211> LENGTH: 8
122 <212> TYPE: PRT
123 <213> ORGANISM: Artificial Sequence
125 <220> FEATURE:
126 <223> OTHER INFORMATION: synthetic construct ✓
130 <400> SEQUENCE: 6

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## RAW SEQUENCE LISTING

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```

131 Arg Asp Gln Lys Leu Ser Glu Leu
132 1 5
135 <210> SEQ ID NO: 7
136 <211> LENGTH: 206
137 <212> TYPE: PRT
138 <213> ORGANISM: Rattus sp.
140 <400> SEQUENCE: 7
141 Met Ala Glu Asp Ala Asp Met Arg Asn Glu Leu Glu Glu Met Gln Arg
142 1 5 10 15
143 Arg Ala Asp Gln Leu Ala Asp Glu Ser Leu Glu Ser Thr Arg Arg Met
144 20 25 30
145 Leu Gln Leu Val Glu Glu Ser Lys Asp Ala Gly Ile Arg Thr Leu Val
146 35 40 45
147 Met Leu Asp Glu Gln Gly Glu Gln Leu Glu Arg Ile Glu Glu Gly Met
148 50 55 60
149 Asp Gln Ile Asn Lys Asp Met Lys Glu Ala Glu Lys Asn Leu Thr Asp
150 65 70 75 80
151 Leu Gly Lys Phe Cys Gly Leu Cys Val Cys Pro Cys Asn Lys Leu Lys
152 85 90 95
153 Ser Ser Asp Ala Tyr Lys Lys Ala Trp Gly Asn Asn Gln Asp Gly Val
154 100 105 110
155 Val Ala Ser Gln Pro Ala Arg Val Val Asp Glu Arg Glu Gln Met Ala
156 115 120 125
157 Ile Ser Gly Gly Phe Ile Arg Arg Val Thr Asn Asp Ala Arg Glu Asn
158 130 135 140
159 Glu Met Asp Glu Asn Leu Glu Gln Val Ser Gly Ile Ile Gly Asn Leu
160 145 150 155 160
161 Arg His Met Ala Leu Asp Met Gly Asn Glu Ile Asp Thr Gln Asn Arg
162 165 170 175
163 Gln Ile Asp Arg Ile Met Glu Lys Ala Asp Ser Asn Lys Thr Arg Ile
164 180 185 190
165 Asp Glu Ala Asn Gln Arg Ala Thr Lys Met Leu Gly Ser Gly
166 195 200 205
169 <210> SEQ ID NO: 8
170 <211> LENGTH: 8
171 <212> TYPE: PRT
172 <213> ORGANISM: Artificial Sequence
174 <220> FEATURE:
175 <223> OTHER INFORMATION: synthetic construct ✓
179 <400> SEQUENCE: 8
180 Gln Ile Asp Arg Ile Met Glu Lys
181 1 5
184 <210> SEQ ID NO: 9
185 <211> LENGTH: 8
186 <212> TYPE: PRT
187 <213> ORGANISM: Artificial Sequence
189 <220> FEATURE:
190 <223> OTHER INFORMATION: synthetic construct ✓
194 <400> SEQUENCE: 9

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## RAW SEQUENCE LISTING

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Input Set : A:\AR4803.txt

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```

195 Glu Arg Asp Gln Lys Leu Ser Glu
196 1 5
199 <210> SEQ ID NO: 10
200 <211> LENGTH: 8
201 <212> TYPE: PRT
202 <213> ORGANISM: Artificial Sequence
204 <220> FEATURE:
205 <223> OTHER INFORMATION: synthetic construct✓
209 <400> SEQUENCE: 10
210 Glu Thr Ser Ala Ala Lys Leu Lys
211 1 5
214 <210> SEQ ID NO: 11
215 <211> LENGTH: 8
216 <212> TYPE: PRT
217 <213> ORGANISM: Artificial Sequence
219 <220> FEATURE:
220 <223> OTHER INFORMATION: synthetic construct✓
222 <400> SEQUENCE: 11
223 Gly Ala Ser Gln Phe Glu Thr Ser
224 1 5
227 <210> SEQ ID NO: 12
228 <211> LENGTH: 206
229 <212> TYPE: PRT
230 <213> ORGANISM: Mus musculus
232 <400> SEQUENCE: 12
233 Met Ala Glu Asp Ala Asp Met Arg Asn Glu Leu Glu Glu Met Gln Arg
234 1 5 10 15
235 Arg Ala Asp Gln Leu Ala Asp Glu Ser Leu Glu Ser Thr Arg Arg Met
236 20 25 30
237 Leu Gln Leu Val Glu Glu Ser Lys Asp Ala Gly Ile Arg Thr Leu Val
238 35 40 45
239 Met Leu Asp Glu Gln Gly Glu Gln Leu Glu Arg Ile Glu Glu Gly Met
240 50 55 60
241 Asp Gln Ile Asn Lys Asp Met Lys Glu Ala Glu Lys Asn Leu Thr Asp
242 65 70 75 80
243 Leu Gly Lys Phe Cys Gly Leu Cys Val Cys Pro Cys Asn Lys Leu Lys
244 85 90 95
245 Ser Ser Asp Ala Tyr Lys Lys Ala Trp Gly Asn Asn Gln Asp Gly Val
246 100 105 110
247 Val Ala Ser Gln Pro Ala Arg Val Val Asp Glu Arg Glu Gln Met Ala
248 115 120 125
249 Ile Ser Gly Gly Phe Ile Arg Arg Val Thr Asn Asp Ala Arg Glu Asn
250 130 135 140
251 Glu Met Asp Glu Asn Leu Glu Gln Val Ser Gly Ile Ile Gly Asn Leu
252 145 150 155 160
253 Arg His Met Ala Leu Asp Met Gly Asn Glu Ile Asp Thr Gln Asn Arg
254 165 170 175
255 Gln Ile Asp Arg Ile Met Glu Lys Ala Asp Ser Asn Lys Thr Arg Ile
256 180 185 190

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```

257 Asp Glu Ala Asn Gln Arg Ala Thr Lys Met Leu Gly Ser Gly
258      195      200      205
261 <210> SEQ ID NO: 13
262 <211> LENGTH: 212
263 <212> TYPE: PRT
264 <213> ORGANISM: Drosophila sp.
266 <400> SEQUENCE: 13
267 Met Pro Ala Asp Pro Ser Glu Glu Val Ala Pro Gln Val Pro Lys Thr
268 1      5      10      15
269 Glu Leu Glu Glu Leu Gln Ile Asn Ala Gln Gly Val Ala Asp Glu Ser
270      20      25      30
271 Leu Glu Ser Thr Arg Arg Met Leu Ala Leu Cys Glu Glu Ser Lys Glu
272      35      40      45
273 Ala Gly Ile Arg Thr Leu Val Ala Leu Asp Asp Gln Gly Glu Gln Leu
274      50      55      60
275 Asp Arg Ile Glu Glu Gly Met Asp Gln Ile Asn Ala Asp Met Arg Glu
276 65      70      75      80
277 Ala Glu Lys Asn Leu Ser Gly Met Glu Lys Cys Cys Gly Ile Cys Val
278      85      90      95
279 Leu Pro Cys Asn Lys Ser Gln Ser Phe Lys Glu Asp Asp Gly Thr Trp
280      100     105     110
281 Lys Gly Asn Asp Asp Gly Lys Val Val Asn Asn Gln Pro Gln Arg Val
282      115     120     125
283 Met Asp Asp Arg Asn Gly Met Met Ala Gln Ala Gly Tyr Ile Gly Arg
284      130     135     140
285 Ile Thr Asn Asp Ala Arg Glu Asp Glu Met Glu Glu Asn Met Gly Gln
286 145     150     155     160
287 Val Asn Thr Met Ile Gly Asn Leu Arg Asn Met Ala Leu Asp Met Gly
288      165     170     175
289 Ser Glu Leu Glu Asn Gln Asn Arg Gln Ile Asp Arg Ile Asn Arg Lys
290      180     185     190
291 Gly Glu Ser Asn Glu Ala Arg Ile Ala Val Ala Asn Gln Arg Ala His
292      195     200     205
293 Gln Leu Leu Lys
294      210
297 <210> SEQ ID NO: 14
298 <211> LENGTH: 203
299 <212> TYPE: PRT
300 <213> ORGANISM: Carassius auratus
302 <400> SEQUENCE: 14
303 Met Ala Asp Glu Ala Asp Met Arg Asn Glu Leu Thr Asp Met Gln Ala
304 1      5      10      15
305 Arg Ala Asp Gln Leu Gly Asp Glu Ser Leu Glu Ser Thr Arg Arg Met
306      20      25      30
307 Leu Gln Leu Val Glu Glu Ser Lys Asp Ala Gly Ile Arg Thr Leu Val
308      35      40      45
309 Met Leu Asp Glu Gln Gly Glu Gln Leu Glu Arg Ile Glu Glu Gly Met
310      50      55      60
311 Asp Gln Ile Asn Lys Asp Met Lys Glu Ala Glu Lys Asn Leu Thr Asp

```

Use of n and / or Xaa has been detected in the Sequence Listing. Review the Sequence Listing to ensure a corresponding explanation is present in the <220> to <223> fields of each sequence using n or Xaa.

## VERIFICATION SUMMARY

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Input Set : A:\AR4803.txt

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L:13 M:270 C: Current Application Number differs, Replaced Current Application No  
L:13 M:271 C: Current Filing Date differs, Replaced Current Filing Date  
L:1005 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:45  
L:1054 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:48  
L:1073 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:49  
L:1107 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:51  
L:1154 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:54  
L:1576 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:85  
L:1578 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:85  
L:1595 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:86  
L:1616 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:87  
L:1641 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:88  
L:1643 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:88  
L:1668 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:89  
L:1670 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:89  
L:1695 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:90  
L:1697 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:90  
L:1722 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:91  
L:1747 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:92  
L:1749 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:92  
L:1775 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:93  
L:1777 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:93  
L:1802 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:94  
L:1827 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:95  
L:1829 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:95